



The Integrated and Disability Health Program of AUSL Bologna.

The Alstom experience for employment access in high functioning autism spectrum disorders

Rita Di Sarro, Nicola Varruciu, Anna Di Santantonio and Ingrid Irene Bonsi

Dipartimento di Salute Mentale, Azienda USL di Bologna, Bologna, Italy

Abstract

The Integrated and Disability Health Program (IDHP) of Bologna deals with the assessment and treatment of both young and adults with high and low functioning autism spectrum disorder (ASD). The IDHP and Alstom Ferroviaria SPA started a highly innovative project for the employment of young adults diagnosed with high functioning ASD. The project consisted of a six months' internship, for a total amount of 560 hours, and a renewal for another 6 months and involved a group of 5 young adults with high-functioning ASD, aged between 18 and 42 years, coming from Bologna or the suburbs. During the internship, a job coach trained in autism spectrum disorders was provided by IDHP. The intervention was based on Behavioral Skills Training (BST). As a result, the following advantages of BST model were found: very effective in small group; learning occurred by observation and modelling, feedback was received by the trainer and other group members.

Key words

- people with disabilities
- autism spectrum disorders

INTRODUCTION

The term autism spectrum disorder (ASD) refers to a condition characterized by difficulties with social skills, repetitive behaviors, and communication. In recent decades, the number of people diagnosed with ASD has increased significantly. According to the Centers for Disease Control, autism prevalence rate is in 59 children in the United States [1]. The incidence of diagnosed ASD in children appears to be in a range of 6 to 20 per 1000. The over-representation of males (four to one) is a controversial piece of data that may possibly lead to women with high functioning ASD being misdiagnosed. Recent research is highlighting a marked overlapping between high functioning ASD and borderline personality disorders [2].

What we know is that autism is not a single condition with a single phenotype, indeed every person with ASD may be considered as affected by a unique "genetic syndrome", most influenced by a combination of genetic and environmental factors [3]. Therefore, every person has a specific set of features that fit with specific environments, persons and situations. People with ASD think, find new solutions and learn in very differ-

ent ways, from highly skilled to severely impaired, with variable levels of support needed, ranging from inpatient units to independent living.

In the autism spectrum, there are several factors may affect significantly on daily life. First of all the sensory profile: people with ASD, if overstimulated, may undergo saturation, and this can lead to emotional disorders and challenging behaviors. Furthermore, several medical issues, such as gastrointestinal, sleep and psychiatric disorders can interfere with an effective functioning and reduce life quality. A primary aim for people is to achieve a good quality of life, to live meaningfully, choosing the best for themselves in the areas that each considers as the most significant such as a satisfying job that also in people with ASD can have several meanings: self-determination, independence, social opportunities. Because of its great importance in people's lives, access to employment is a fundamental human right included in the UN Convention on the Rights of Persons with Disabilities (UNCRPD) [4]. Nevertheless, the number of people with ASD who do not have a job is still very high, such as the number of person with ASD who do not have a satisfying job [5]. In fact, people

with ASD are extremely heterogeneous, very skilled in details identification, testing and in repetitive tasks, but usually impaired in jobs where social skills are needed. Unfortunately, health services do not consider the characteristics and the needs of this population in the job search phase, offering opportunities not matching with their level of functioning, which leads to a high probability of failure.

THE INTEGRATED AND DISABILITY HEALTH PROGRAM (IDHP)

The Integrated and Disability Health Program (IDHP) was established in 2016 within the Local Health Authority of Bologna: one of the main purposes was to deal with the assessment and treatment of young and adults with high and low functioning ASD in collaboration with disability services, Social Services and Public Mental Health Centers. In 2017, IDHP and Alstom Ferroviaria SPA started a very high innovative project for the employment of young adults diagnosed with high functioning ASD. Alstom Ferroviaria SPA is a multinational company with solid roots in Italian industrial history, with 8 offices throughout the national territory. One of the core activity of Alstom Italia is the development of rail transport in Italy; the Group operates in a high technological sector, strongly innovation-oriented. With 2500 employees in Italy and around 600 in Bologna, it represents one of the leader companies in the Italian railway sector. This project appeared immediately as a good opportunity to help people with ASD to find a qualified job: often these persons, despite their skills, face several difficulties in finding jobs that offer opportunities for professional growth. Usually, at best, people with autism settle for an underqualified job. This must be, at least partly, attributed to the little knowledge on employment-specific support needs, fundamental to start a professional career.

With the introduction of a specific law regulating employment of disabled people (Law no. 68 of 12 March 1999: "Regulations on the right to employment for persons with disabilities"), based on the size of their workforce, both private and public sector employers are required to hire a certain percentage of disabled workers and follow these rules:

- employers with more than 50 employees must meet a 7% disability employment quota;
- at least 2 disabled workers must be hired in workplaces of 36 to 50 employees;
- workplaces of 15 to 35 employees must hire at least one disabled worker if there is an opening for a new job.

Unfortunately, many companies do not fulfill the above-mentioned obligations and prefer paying a fine rather than hiring a disabled person. To change companies' mind, training sessions on ASD features resulted to be very effective, examining in depth strengths and weaknesses and identifying strategies to deal with this population. Group psycho-educational interventions are then needed to foster social relations in subjects with ASD. We focused on some specific aspects: an increase in knowledge on the specific components of this condition, the identification of specific difficulties

in interpersonal relationships (cognitive, emotional and behavioral components). In addition, we taught functional interactive and communicative modes (verbal, non-verbal, implicit behavioral elements).

Characteristics of the persons identified for the project

A group of 5 young adults with high-functioning autism spectrum diagnosis, between 18 and 42 years, coming from Bologna or from the suburbs was selected. One of the 5 boys lived independently, while the others were still with the family of origin. One of them had a bachelor in statistics and now he is successfully enrolled in Drama, Art and Music Studies University of Bologna (DAMS). One is currently enrolled in the Faculty of Statistics. Two trainees had a high school diploma and another one was still attending high school. He was included in this project within a school/work training pathway. Such a training consisted of a specific part (individual and/or group) dealing with job placement and another one on personal and family issues.

Description of the project actions and aims

The project consisted of a six months type C internship, for a total amount of 560 hours, and a renewal for another 6 months. Support actions planned and implemented for the insertion and during the training internship were:

1. cognitive and functional assessments:
 - b. WAIS – IV or specific cognitive tools;
 - c. AFLS (assessment of functional living skills, ed. 2012) – social skills – basic working skills;
 - d. clinical interviews;
2. support meetings with psychologist, and/or social worker and/or educator;
3. information and support meetings with Disability Employment Center;
4. social skill groups;
5. meetings of verification and connection with the services for adults who are in charge of the subjects;
6. parent training;
7. verification group meetings with ALSTOM;
8. specific training for ALSTOM employees.

The general objectives of the project were the acquisition of competences defined in the specific individual project, through a type C internship, (Regional Law n. 7/2013) and placement in the ordinary labor market, through law 68/99, of adults in charge of services, with diagnosis of the high functioning ASD. The specific objectives of the project can be listed as follows:

- exposure to a work environment;
- personal and relational growth;
- acquisition, through practical experience, of knowledge and skills certified by continuous education programmes (issued by a training institution);
- verification and orientation of individual professional choices;
- finalizing the educational experience in a recruitment.

Work and social goals were individually defined on the basis of the personal characteristics and interests. One of the main issues was to find a job that matched

both with functioning and interests of the person, to avoid drop out from the project. From our clinical experience, we know that people with autism are less likely to tolerate the frustration of undesirable work or activities; so, with the engineering team we tried to “build” the job step by step, balancing between the needs of the person and the needs of the company.

The training intervention was based on behavioral skills training [6], an effective procedure for teaching social skills and professional skills; the procedure consists of four steps:

1. give clear instructions that describe the appropriate behavior that one wants to be issued;
2. give an observable model (live, video, etc.) of the target behavior;
3. act the target behavior observed;
4. give an immediate feedback to the subject.

During the internship, a job coach trained in ASD was provided. At first, the job coach was present daily in the company with the subjects: the main function was to foster autonomy, self-organization, problem solving and responsibility, but also mediation with the environment, communication, modeling inappropriate behaviors and managing sudden challenging behaviors.

Our training was specifically focused on social skills that is the set of psychological, relational and communicative abilities, which play a fundamental role, from a cognitive and emotional point of view, in the correct interpretation and use of the rules of social interactions. Thus, the focus is on the set of behaviors that make it possible to live well with others. Considering the characteristic profile of people with ASD [7, 8], teaching adequate social behaviors (rule-governed behavior) was extremely important for the success of the whole project [9, 10]. The difficulty in understanding the mental states and the behavioral codes of peers and adults can lead to troublesome behaviors or lack of interest, resulting in a drop out from the project. The group experience, fostering social relations, also encourages communication, sharing of experiences, understanding, awareness and respect for social rules.

CONCLUSIONS

Overall, the project evidenced specific advantages of the BST model. This can be summarized as follows: it is very effective in small groups, learning occurs by

observation and modeling and the participant receives feedback by the trainer and other group members. However, a main disadvantage of this method is that BST is not focused on the individual, so that the rate of participation of each subject could be limited, or on the contrary, one member could predominate on the other.

During the training, immediate feedback was very useful to correct the inadequate behaviors and to foster efficacy and social relations. Furthermore, clinical interviews were conducted to evaluate the progress of the internship and the single expectations, to focus on individual features and needs and quickly intervene, when necessary. Parallel to this project, group interventions on social skills were activated. The group activities focused on main issues of ASD, the identification of cognitive, emotional and behavioral components and relative effects on the environments, and the teaching of functional interactive and communicative modes (verbal, non-verbal, implicit behavioral elements).

In conclusion, this project gave a real opportunity to people with ASD to start a real successful career. Furthermore, it allowed the Alstom offices to better understand the potentialities of this kind of population to improve the qualities of their business.

Authors' contributions

The first Author reviewed literature and wrote the paper; the remaining Authors collaborated with the revision of the paper.

Compliance with ethical standards

The Authors, in accordance with the policy of their institutional review board, obtained the approval of the research by the internal scientific committee.

Informed consent

Informed consent has been obtained for the patients involved in the study, and no reported data can be referred to individual identity.

Conflict of interest statement

The Authors declare that they have no conflict of interest.

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